UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
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Ref: 8EPR-F

DEC 10 1998

Mr. Joe LeGare
Department of Energy
Rocky Flats Field Office
P.O. Box 928
Golden, CO 80402-0928

Re: Proposed Action Memorandum for the East Trenches Plume

Dear Mr. LeGare:

EPA has reviewed the draft Proposed Action Memorandum (PAM) for the East Trenches Plume, November 1998, and has the following comments regarding the document. Overall, the proposal to install a passive groundwater collection and treatment system is endorsed by EPA. Most of our comments will only require minor changes to the document, however, we feel that it is also necessary to discuss some aspects of the system design as presented in the document.

Page 11, Section 2.4 East Trenches Plume Contamination Summary

This section begins by stating that radiological contamination was not observed in either the subsurface soils or the groundwater, but then mentions that the source area had concentrations of uranium 238 up to 3,240 pCi/g. Although data is presented from one well within the plume (11891) to support the lack of radionuclides in groundwater, it would be more convincing to show by maps and tables that this holds true for the entire plume. Additionally, on pages A-1 and A-2 of the appendix it is stated that the iron filings in the treatment cells would hold the radionuclides from the treated water, thus they would be considered low level waste. This statement should be revised unless it is true that the groundwater does contain radionuclide contamination.

Page 14 & 15, Section 2.4.2 Subsurface Soil & Table 4

The text discusses analytical results for the subsurface soils of the East Trenches Plume and data is presented in Table 4 for metals and radionuclides. All but one of the wells in Table 4 lie outside the plume boundary and are of little value in showing that the soils within the plume area are below RFCA action levels. These wells should be replaced with wells inside the plume area, starting as close to the source area as possible, to better characterize subsurface soil contamination levels.

Page 15 & 16, Section 2.4.3 Surface Water

This section needs to display the locations where samples were collected from the seep, culvert and ponds on a map. It would also be beneficial to display all known seeps in the area for a better understanding of the groundwater to surface water relationship. In addition, analytical results for the seep water and other surface water samples should all be shown in a table.

Page 17, and Figure 6

The southwestern end of the groundwater collection system as stated and shown in the document would allow contaminated groundwater to flow around the system and eventually into surface water. By extending the system approximately 100 feet southwest of well 24397 (in which contaminants are present), the western portion of the plume would probably be completely contained.

- Figure 6 shows PCE concentrations but the text on page 11 refers to the figure as showing TCE.
- The label for the red line in the legend of Figure 6 should be revised, since it actually shows where the groundwater collection system would lie, not a permeable reactive barrier.
- Collection sumps are shown in Figure 6, but not in Figure 7, and are not mentioned in the text. If they are part of the design, the text should explain why they are needed and other details of how they fit into the system.

Page 21 & 22, Section 3.1.3.1, Groundwater Monitoring

The number and placement of piezometers that will be used for water table measurements should be specified in the text and shown in a figure in this document.

Figure 8, Collection Trench Details

This figure shows a cross section of the collection trench in which the HDPE cutoff wall is placed on the downgradient side of the filter backfill and the bottom 2 foot bentonite seal. Above the filter backfill the drawing shows up to 17 feet of soil that is to be impermeable. For a better seal, the HDPE cutoff wall should probably extend well up into the soil cap (approximately 2 feet or more) depending on the permeability of the soil that is used for the cap.

Figure 9, Treatment Cell Schematic

This figure is actually from a Mound Site Plume document, and should be replaced with a schematic that accurately show the details of the East Trenches Plume treatment cell design.

The collection and treatment system described in this document are very similar to that which is presently installed upstream at the Mound Site plume. Since installation last summer, a number of lines in the system have broken in various places. This is a design problem that needs to be addressed so that the same problems do not occur with this system.

In addition to the system described in this document, consideration should be given to the use of in situ chemical oxidation. This form of treatment has been shown to be almost immediately effective in treating the type of organic contaminants found in this plume, and at a relatively small cost, depending on the size area treated. Although the system described in the PAM should be effective over the course of time for contaminants upgradient from the collection trench, the groundwater downgradient will not be actively addressed. In situ chemical oxidation could be used in those downgradient areas that exceed Tier I levels and thereby provide more immediate protection for surface water in the drainage.

If you have any comments or questions regarding these matters, please contact Gary Kleeman at 312-6246.

Sincerely,

Tim Rehder, Manager
Rocky Flats Project

cc: Norma Castaneda, DOE
Carl Spreng, CDPHE
Lane Butler, Kaiser-Hill
Annette Primrose, RMRS
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